

PEMBANGUNAN INSTRUMEN PSIKOMETRIK MENGGUNAKAN PENDEKATAN ANALISIS TEORI RESPONS ITEM UNTUK PEMILIHAN PELAJAR KEJURUTERAAN PERKAPALAN

(Development of Psychometric Instrument Using Item Response Theory
Approach for Marine Engineering Student Selection)

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ABSTRAK

Kajian ini adalah untuk membangunkan, mengesahkan serta menguji ciri psikometrik bagi Inventori Saringan Personaliti Jurutera Samudera (PERJURA). PERJURA dibangunkan untuk melengkapkan proses saringan awal pemilihan pelajar Program Diploma Kejuruteraan Perkapalan (DKP) di Politeknik Malaysia. Inovasi ini dihasilkan menggunakan pendekatan analisis Teori Respons Item (IRT). IRT adalah satu teori pengujian moden yang dikembangkan untuk menganalisis keseluruhan item dalam PERJURA. Model Personaliti Lima Faktor menjadi tunjang utama bagi pengukuran personaliti diri. Konstruk Kemandirian pula telah dibangunkan khusus berpandukan Inventori Personaliti Persekitaran Kerja. Personaliti Kemandirian adalah pelengkap kepada penyatuan antara personaliti diri dengan persekitaran kerja. PERJURA dibangunkan berasaskan model pembinaan ADDIE yang melibatkan lima fasa utama. Dapatan menunjukkan sebanyak 108 item daripada 288 item yang diuji ke atas 200 orang responden telah memenuhi kesemua keperluan IRT melalui pengujian menggunakan Model Skala Penarafan Umum dengan bantuan perisian Xcalibre 4.2. PERJURA mampu membantu mengenal pasti tahap keselarasan personaliti calon pelajar untuk tujuan pemilihan. Justeru, inovasi PERJURA adalah medium terbaik dalam usaha mengangkat martabat program kejuruteraan perkapalan di Malaysia agar setanding dengan program sama yang ditawarkan oleh akademi latihan laut yang lebih maju di luar negara.

Kata kunci: Ujian psikometrik; teori respons item; pemilihan pelajar; analisis item

ABSTRACT

The purpose of this study is to develop, validate and test the psychometric properties of Marine Engineer Personality Screening Inventory (PERJURA). PERJURA has been developed to complement the initial screening process of student selection for Marine Engineering Diploma Program at Malaysian Polytechnic. This innovation is produced by using an approach of Item Response Theory (IRT) analysis. IRT is a modern testing theory that is developed to analyze in detail the entire item in PERJURA. Five-Factor Personality Model has been the pillar for the measurement of individual personality. Survival's construct has been developed specifically by referring to the Workplace Personality Inventory. The survival's personality complemented the union between self personality and work environment. PERJURA was developed based on ADDIE construction model that involves five main phases. The findings show that 108 items from 288 items tested on 200 respondents have met the requirement of IRT based on the testing via General Rating Scale Model using Xcalibre 4.2 software. PERJURA is able to identify the congruence level of the candidate's personality for the purpose of student selection. Thus, the innovation of PERJURA is the best medium that could elevate the status of Maritime Engineering Program in Malaysia as a prestigious program at par with similar programs offered by other advanced Marine Engineering Academy abroad.

Keywords: psychometric test; item response theory; student selection; item analysis

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